

Method and Apparatus for Using CRC for Data Integrity in On-Chip Memory
Abstract of the Disclosure

Cyclic-redundancy-code ("CRC") information that is received along with a
5 frame from a fibre-channel is stored in an on-chip frame buffer, and later checked to
ensure the integrity of the data while in the frame buffer. In various embodiments,
data frames, along with their CRC information, are stored into a data-frame buffer,
and/or non-data frames along with their CRC information are stored into a receive-
non-data-frame buffer. The improved communications channel system includes a
10 channel node having dual ports, each port supporting a fibre-channel arbitrated-loop
serial communications channel. The serial communications channels each include
CRC on data transmissions on the channel, an on-chip frame memory located on-
chip in the channel node that receives a data frame and the frame's associated CRC
from the communications channel, and an integrity apparatus that later uses the
15 received associated CRC for data-integrity checking of data in the on-chip frame
memory. In addition, a method for using CRC for data integrity in on-chip memory
is described.

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